National Defense

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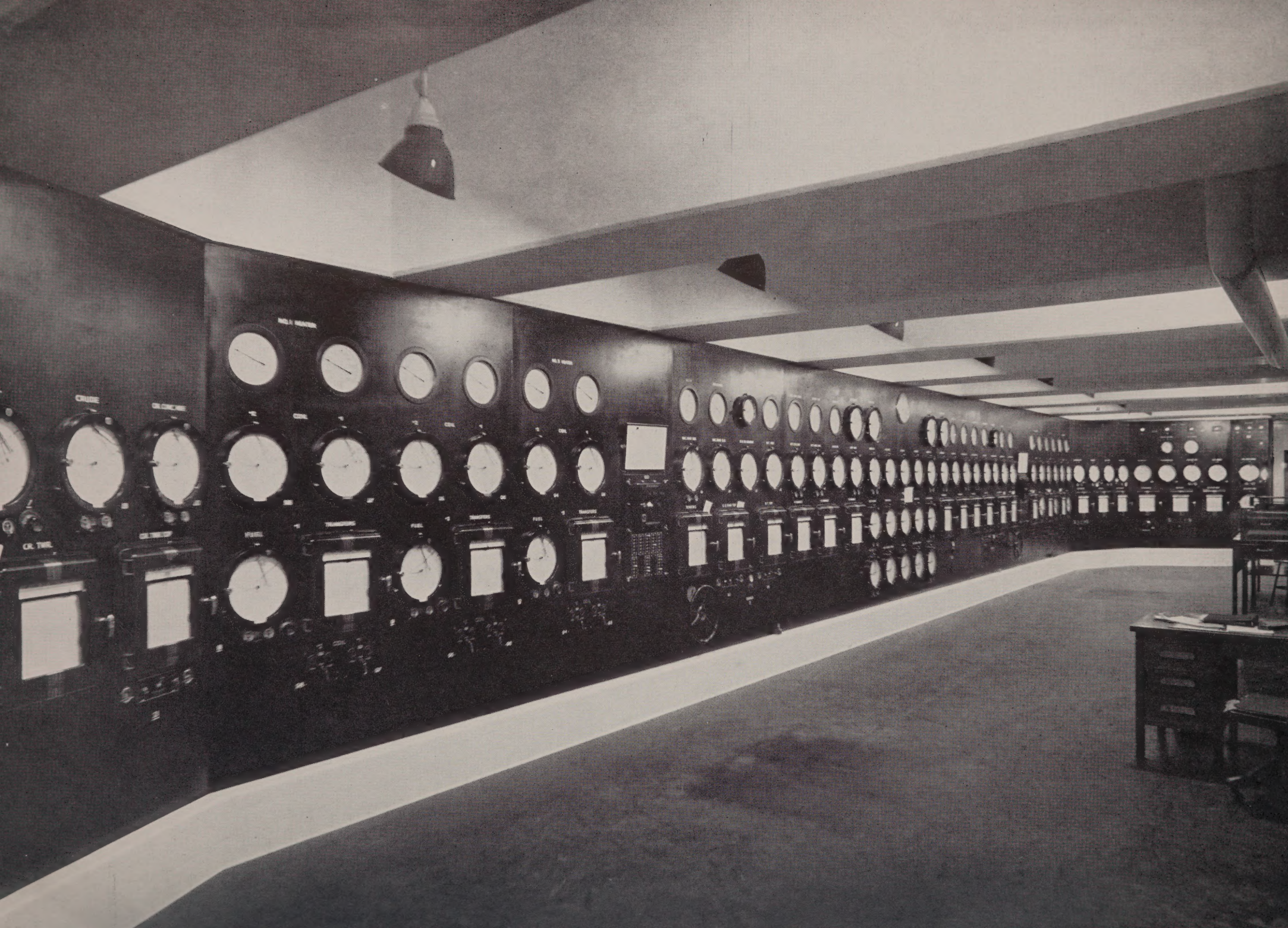

TECHNOCRACY

The New America

OFFICIAL MAGAZINE OF TECHNOCRACY INC.

America—Now and Forever

By Howard Scott

Director-in-Chief, Technocracy Inc.

AMERICA is at the end of an epoch—one hundred and sixty years of representative political government, private enterprise, private initiative, and glorified individualism——

——An epoch in which expansion, movement, and growth dominated the national scene; a continuous hurly-burly of a free-for-all scramble for individual gain; a period of national adolescence where the vitality and the vagaries of youth enabled our nation to stumble impetuously from the success of one glorified situation into an ever-greater anarchy of uncontrolled individual action; an epoch wherein this year's expansion of our national life was great enough to cover last year's mistakes.

Geographical America was so great and so huge and so endowed by God's beneficence that the American people as a nation were never forced by the circumstances of nature into a conscious planning of national endeavor. The exigencies of our national life were always local and sporadic and appeared to be but a passing phase, so much so that they were viewed as mere, temporary incidents in our forward march of progress.

We as a people have always believed that we were forever outward bound to greater and bigger things. The continuum of expansion in the progress of our nation through the fortuitious circumstances of our geography and our geologic conformation has never forced upon us the collective cohesion necessary for the development of a truly national perspective, a program as a nation.

Today, in 1940, this epoch is coming to a close.

In September 1939, the second World War began. American industry and business, scenting giant orders for war supplies, enjoyed a temporary boom. Orders did flow in for trucks, tanks, airplanes, and a thousand and one articles and commodities. The boom slipped in December, and even the huge orders of the Allies had insufficient priming power to give American industry more than a slight shot in the arm. The first four months of 1940 saw the production indexes of the United States sliding gloriously downhill, and with their downward slide came the realization that Allied war orders would never be large enough to bring home the bacon of expected war profits.

Nineteen Forty! A national election year, with business sliding downhill, with a World War abroad, with relief and unemployment at home! The politician and the financier viewed the scene with alarm and rightly so. The present political government of the United States had spent 25 billion dollars, in the most magnificent futility, in the vain attempt to salvage the political and business structure of our system of private enterprise. The United States entered the period of the second World War as a benevolent neutral to the Allies. We as a nation had erected safeguards to our vaunted neutrality in the shape of the Johnson Act and the Declaration of Neutrality. There is no doubt that these safeguards were erected in all sincerity as governmental affirmations of our national opinion. These gestures on the part of our national leaders were made as a demonstration that they were expediting, as public servants, the expression of the national will. Our national leaders, however, had the usual reservations that are always held

These automatic devices in the Richfield Refinery, Watson, Calif., assure positive and accurate operations control. Technocracy proposes a social control for the North American Continent equally accurate, impersonal, and positive. (Equipment designed and installed by C. F. Braun and Co., who supplied this picture.)

by public servants acting in expediency.

In the ninth month of the second World War the military successes of the Nazi army, in combination with falling industrial and business activity in the United States, combined as a preelection proposition, have spawned the greatest nationwide *campaign* of hysteria ever instituted in our country. The possibility of Allied defeat and the probability of German victory have naturally affected us, the people of United States, who are by language, tradition, and culture inclined to sympathy for the Allied cause. This sympathy and national feeling have been played upon by our national leaders until it has become a national anvil chorus of world disaster. Every newspaper, every radio, every politician, and every prominent businessman have their hammers and anvils beating out a weird cacophony, a nationwide siren of the psychosis of fear.

Franklin Delano Roosevelt, President of the United States, being the most astute politician who has occupied the White House in over two decades, recognized the political and economic opportunism of the impact of world events on our national mechanism. He promptly seized the bull by the horns and flung it into our national arena, a gesture which was emulated by all the greater and lesser celebrities of the American scene.

The result has been that our national leaders have succeeded in capitalizing the psychosis of fear into the roseate patriotism of national defense. Does the United States require defense? It most certainly does. Has United States ever had adequate defense? It never has. Defense of the United States in the past has always been left to that naive belief of the American people: that when a national emergency arose, there would spring fresh blown from the soil of our country a patriotic volunteer army of citizen soldiers that would rush to our national defense.

From 1776 down to today adequate defense of the United States has always been decried and shouted down by our chiselers of private enterprise. National business has always been afraid that the United States might someday possess a planned and trained armed force of defense. Our history records that national business has sabotaged every attempt to design and construct an adequate system of national defense, except upon those rare opportunities of national disaster when they could privately profit from the carnage and have the expense charged up to taxation paid by our citizens. 'When the devil is sick the devil a saint would be,' and every prominent businessman is out leading the vanguard of the national anvil chorus of fear.

Geography Mandates Defense Area

The governments of nations declare war and make peace. The citizens of nations fight the wars their governments declare and enjoy if possible the benefits of the peace that their governments arrange. The government of a nation decides how and when the people of the nation will fight. *The people of a nation must decide what their government and they will fight for.*

National defense presupposes something to defend. In all of the proposals for national defense that are blared out across the United States today not one nor all of them have in any way defined what it is the United States must defend. Are the people of the United States to suppose that the Continental United States of America lying between the Atlantic and Pacific Oceans, north of the Rio Grande and the Gulf of Mexico, and south of the 49th parallel and the Great Lakes is what we are called upon to defend? In all the utterances on national defense today this is the area and its contents that the supposed program of defense is to encompass.

Against what enemy are we supposed to defend this area? The territories to the north and south on this Continent? Admittedly not, as no country on this Continent constitutes even the slightest menace or threat to our national domain. The danger, loudly proclaimed, is that of Nazi world domination and the invasion of this Continent and this hemisphere by the armed forces of a conquering Nazi imperialism. In the event of an overwhelming Nazi victory through a catastrophic defeat of the Allied forces the eventuality of armed aggression against this Continent from both Europe and Asia becomes not only possible but probable.

Let Technocracy state it clearly here and now: That the United States and the Continent of North America is the greatest loot of all history—the richest area of resources on the globe and the greatest collection of technological equipment. This Continent is an open invitation to loot on the part of all the *haves* and *havenots* alike of Europe and Asia.

Continental United States can only be defended against the *internal* enemies of this Continent.

Continental United States cannot be defended against Continental aggression from other continents. It can only be defended by an adequate defense of the entire Continent of North America! Any attempt to defend the United States by itself should be viewed as national treason. Any attempt to defend the Western Hemisphere falls into the same category, for the Western Hemisphere is impossible of defense. If we have adequate defense of the Continent we can PROTECT the Western Hemisphere in its entirety. We cannot defend the Western Hemisphere. That is a fool's dream as stupid as the proposed defense of the United States. Adequate Continental defense of North America insures the ultimate of defense for the United States and a guaranteed protection for the Western Hemisphere.

President Roosevelt has come out for national defense and has asked Congress for appropriations totaling over five billion dollars. The enunciation of this program by the President of the United States has brought forth a rush of support from all outstanding patriotic figures and from all national celebrities of the business and political world. It has become evidence of one's patriotism to rush into print in support of this so-called program of defense.

The program of national defense, as enunicated by Franklin Delano Roosevelt, is a curious mixture of political and economic opportunism compounded with a dose of sincere patriotism. Our program of national defense as it now stands is composed of one part national defense, five parts governmental financial stimulation of the capital goods industry, and six parts political opportunism in national electioneering.

The mere passing of appropriations of billions by Congress does not produce any design or system of adequate defense, regardless of how many billions are appropriated.

TABLE I

The Eminent Domain of the New Social Order—See Map

THE TECHNATE OF AMERICA

Square Miles of Land Area	10,300,000
Population	195,400,000

POPULATIONS [1]	PRESENT COUNTRIES	AREAS [2]
63,000	Alaska	586,400
31,000	Bermuda	19
337,000	British Guiana	89,480
57,000	British Honduras	8,598
1,778,000	British West Indies[4]	10,251
11,209,000	Canada	3,694,863
8,600,000	Colombia[5]	441,651
623,000	Costa Rica	23,000
4,200,000	Cuba	44,164
95,000	Curacao	403
1,587,000	Dominican Republic	19,332
31,000	French Guiana	4,053
3,045,000	Guatemala	42,353
17,000	Greenland	837,620
171,000	Dutch Guiana	54,291
2,600,000	Haiti	11,069
384,000	Hawaii	6,407
1,000,000	Honduras	44,275
5,000	Labrador	112,400
565,000	Martinique and Gaudeloupe	1,073
19,479,000	Mexico	760,200
289,000	Newfoundland	42,734
900,000	Nicaragua	51,660
548,000	Panama	29,065
42,000	Panama Canal Zone	554
1,806,000	Puerto Rico	3,435
1,704,000	Salvador	13,176
10,000	Samoa	76
4,000	St. Pierre and Miquelon	93
456,000	Trinidad and Tobago	1,976
3,530,000	Venezuela[5]	352,051
22,000	Virgin Islands	133
130,215,000	United States	3,026,789
195,403,000	Technate Totals	10,313,644
2,125,000,000	World Totals	55,000,000[3]

Technate, Percentage of World Population	9
Technate, Percentage of World Land Area	19
Technate, People per Square Mile	19
Rest of the World, People per Square Mile	43

1. *Source:* Statistical Yearbook of the League of Nations, 1938/39.
2. *Source:* Rand McNally Commercial Atlas, Seventieth Edition, 1939. Square miles.
3. *Total earth's area:* 197,000,000, square miles of which 142,000,000 square miles are water.
4. *British West Indies* includes: Bahamas, Barbadoes, Windward Islands, Leeward Islands, and Jamaica.
5. Totals will be amended slightly owing to the fact that only the geographical portions of Colombia and Venezuela necessary to this Continent would be included.

No statement has ever been issued from Washington defining what the people of the United States are to defend. The main hue and cry of our supposed defense program is for more ships, more planes, and an increase in the equipment and personnel of the United States Army. At the present moment there are only approximately 80,000 men of the United States Army within Continental U. S. A. The rest are on duty in Puerto Rico, Panama, Hawaii, and other places.

Armies are not created overnight, and the mere promulgation of the cry for defense cannot produce the technological equipment required by the mechanized forces of modern military defense. Are we to repeat the same mistakes that we made in 1917-1918 in the first World War? United States was unprepared then. It is unprepared today.

The United States declared war against Germany on April 6, 1917. In that year the political government of our country appropriated billions, and business cooperated handsomely. The Ordnance Department, at that time, expended approximately four billion dollars in slightly over a year in an attempt to produce 20,000 guns of various caliber and munitions for the same. In spite of this terrific expenditure the Ordnance Department only succeeded in supplying the A. E. F. in France with 133 guns and 600 shells of a single caliber in time to be used at the front. One hundred and sixteen million dollars was expended in United States for the production of gas for the chemical warfare unit of the A. E. F. In spite of this expenditure the A. E. F. fired only gas purchased from the Allies.

The War Department ordered 195,000 copper branding irons, 1,000,000 horse covers, 2,000,000 feed bags, 1,500,000 horse brushes, 2,800,000 halters, 945,000 saddles—to equip 86,000 horses! We spent 120 million dollars building nitrate plants at Muscle Shoals, Toledo, and Cincinnati that never produced a single pound of nitrates. (This brings back strange memories, for the writer was Equipment Engineer at United States Nitrate Plant No. 2, Muscle Shoals, Alabama, in 1918.)

True, we mobilized, through the means of the selective draft, over 4,000,000 men in the A. E. F. We succeeded in getting 2,000,000 to France, but we had to buy practically all their equipment from the Allies. We had to arm the majority of the A. E. F. with the Enfield Rifle because we did not possess the means to produce our Springfield, a far better weapon, in quantities fast enough to supply our own armed forces. The same is true for the hand grenades and artillery used by our fighting forces in the first World War.

In the first World War the United States spent billions, raised an expeditionary force, and created several thousand new millionaires; and in 1918 achieved the highest income per capita in its history. When we entered that war the federal debt stood at $2,975,619,000. We are now rushing into a mythical national defense with our national debt exceeding 45 billion dollars.

In 1917 there was no public national relief and the number of unemployed in our country was insignificant. Today, in 1940, our unemployed number close to 11,000,000, and the total on relief to almost double that amount. National business in the first World War indulged in the greatest drunken orgy of chiseling that the world has ever seen. We came out of the World War with a surplus of producing equipment and returned soldiers but with practically no means of defense available. United States went to war to make the world safe for democracy. We spent billions and we loaned billions and had thousands of Americans die in action for something that wasn't worthy of defense then or now.

The people of the United States today, in 1940, are entitled to ask: Are we as a nation going to repeat the same terrific blunder that we committed 23 years ago?

War business is always good business but damn lousy defense.

The imminent collapse of the world's structure of trade and foreign relations by military disaster is apparent. The fear of change is widespread but we, as a nation, are meeting the issues of 1940 with the same stumblebum generalship that we used in 1917 and 1918. Technocracy views the entire program of national defense now being promulgated as entirely inadequate, as but another gesture to save the institutions of this Price System by creating a sincere and well-meaning program of expending billions for the production of defense requirements, when we, as a nation haven't the slightest idea what the United States has to defend.

Technocracy is for adequate defense of the Continent of North America, but is completely opposed to the present vague program of supposed national defense. Continental defense will cost in excess of 100 billion dollars if produced by a national operating conscription of physical wealth. To attempt to produce adequate Continental defense under the chiseling practices of this Price System with all its merchandising write up would cost several times this amount. Therefore, adequate Continental defense is not possible if we attempt to design and produce it under the domination of the institutions of this Price System. To attempt to procure adequate Continental defense under the merchandising practices of this Price System will result in the greatest orgy of spending that this country has ever known—a last wild fling before the debacle ensues.

Whose America?

Are we to ask the manpower of this nation to enter the armed forces of the country by voluntary enlistment? If we are, we shall never have an army. Granting the total failure of the system of voluntary enlistments to provide adequate armed forces, are we as a nation going to institute compulsory military service? Compulsory military service for what? In defense of what? In defense of whose America?

Mr. Henry R. Luce, editor of *Life* magazine, states what America he is willing to fight for in the June 3, 1940 issue of *Life*: 'What I am willing to fight for is, of course, America, but not America as a geologic mass—not for its mountains and plains and rivers, greatly though I love them and much though they have concerned me. The America I want to fight for is the America of freedom and justice, the America which has stood throughout the world for the hope of progress in the democratic way of life, and for faith in the ultimate brotherhood of man.'

Mr. Luce was sincere when he wrote of what America he would defend as he states he would not defend the physical America of our mountains, plains, forests, rivers, and streams, but only for his America of freedom

and justice. Mr. Luce's America is the America of less than 3,000,000 people. The other 130,000,000 Americans have *their* America. The America of most Americans is the America of the mountains, plains, forests, rivers, and streams—*without* sufficient purchasing power to purchase freedom and justice. Freedom and justice are only purchasable attributes derived from the security of high income brackets. Americans cannot wear freedom, they cannot eat justice, and they cannot ride on liberty. In the face of the machinery of this technological age these phrases are but the empty baubles of the social epoch of yesterday.

America is in that cruel dilemma where its mountains, its rivers, its plains, its soil, its resources, and its technological equipment are worthy of defense, while its social institutions are not deserving of any defense whatever. Whose America are we going to defend: The America of corporate business? the America of machine politics? the America of crime and graft, of profits and penury, of poverty and relief? the America of chiseling? To defend *this* America would make suckers out of 133,000,000 people. Has national business and national politics the unmitigated gall to ask the citizens of the United States to defend *that* America? If it has, then God help America! Do our leaders of national business and politics really expect Americans to go out and die in defense of the dear old Standard Oil and the grand old W. P. A.?

A New Great Technology

The Continental defense of North America exceeds in magnitude any of the defense programs of the present belligerent powers. The defense of this Continent requires not only a two-ocean navy, an air force of 50,000 planes, and a standing army of 1,000,000 engineer-mechanics, but must of necessity include adequate defense bases with complete fortifications on the strategic locations of this Continental Area. Such a program of defense far outranges in scope and volume anything hitherto undertaken by any belligerent power. Germany prepared for the present struggle by a huge rearmament program that required, in the years 1935 to 1939 inclusive, a total expenditure of 19.1 billions of American dollars. Russia in the same five years spent 13.5 billion dollars on her armament program. Great Britain spent 6.2 billions and France 4.9 billions in the same period of time, while the United States rolled up 5.1 billions.

It can be seen that Germany has spent nearly twice as much as Great Britain and France combined in these five years of military preparation and almost four times that of the United States. The pitiful sum of 5.1 billions

TABLE II

PRODUCTION OF MINERALS, 1937

(Metric Tons, ooo's Omitted)

Mineral	The American Technate	Rest of the World	Total World	Technate Percent of Total World
Aluminum	174	307	481	36
Arsenic	27	29	56*	48
Asbestos	383	101	484	79
Asphalt [a]	6,023	2,343	8,366	72
Antimony	11	26	37	29
Cadmium [1]	2,526	1,674	4,200	60
Cement	21,581	61,459	83,040	26
Chromite	101	1,249	1,350[b]	7
Coal	462,866	1,077,134	1,540,000	30
Copper (mine)	1,072	1,258	2,330	46
Cryolite [2]	13	4	17	79
Feldspar	292	130	422	69
Fluospar	174	291	465*	37
Natural Gas [3, c]	68,816,000	5,489,000	74,305,000	92
Gold [4]	10,564	25,246	35,810	30
Gypsum	3,819	6,481	10,300	37
Lead	828	858	1,686	49
Magnesium	2	20	22†	9
Manganese (ore)	175	5,812	5,987	3
Mercury	1	4	5[b]	15
Mica	24	18	42	56
Molybdenum	14	1	15	95
Nickel	102	13	115	89
Petroleum (crude) [5]	1,551,620	490,095	2,041,715	76
Phosphate Rock	4,020	6,054	10,074	40
Pig Iron	38,836	64,914	103,750	37
Platinum [6]	310	161	471	66
Potash	441	19,963	20,404	2
Pyrites (gross wt.)	702	4,485	5,187	14
Salt	9,206	16,729	25,935	36
Silver [7]	184,174	92,571	276,745	66
Steel [c]	52,805	82,195	135,000	39
Sulphur (native) [2]	2,742	380	3,122	88
Superphosphates [8, d]	4,800	12,415	17,215*	28
Tin [2]	(.5)	209	210	(.25)
Tungsten [b]	3	32	35	10
Vanadium	(.5)	1	2	28
Zinc (smelter)	686	933	1,619	42

Key to the Table

Quantities: 000 omitted from all totals. Nearest round figure given. Percentage calculations on the basis of the complete figure.

Units: All figures unless otherwise indicated are in metric tons. (A metric ton is 2,204.6 avoirdupois pounds.) Other units are designated as follows: *1,* kilograms; *2,* long tons; *3,* cubic meters; *4,* fine ounces; *5,* barrels; *6,* troy ounces; *7,* fine ounces; *8,* short tons.

Sources: The source of all figures in the production columns is the *Minerals Yearbook, 1939,* (U. S.), unless otherwise indicated. Other sources are designated as follows: *a,* The Asphalt Institute; *b,* G. A. Roush, *Mineral Supplies; c, Statistical Yearbook of the League of Nations, 1938/39; d,* National Fertilizer Association.

* 1936

† 1938 estimates

TABLE III

INDUSTRY

BIGGEST MANUFACTURING PLANT IN THE WORLD

A Few Manufactured Quantities, 1937 * (U. S. Only)

Bakery products	6,328,000 tons
Butter and cheese	1,216,000 "
Condensed and evaporated milk	1,330,000 "
Breakfast foods	623,000 "
Prepared flour	444,000 "
Chocolate and cocoa	332,000 "
Confectionary	897,000 "
Wheat flour	10,527,000 "
Meat, meat products, and poultry	7,816,000 "
Bone black, and carbon black	276,000 "
Acetic acid	66,000 "
Hydrochloric acid	121,000 "
Nitric acid	175,000 "
Ammonia	112,000 "
Soda ash	3,037,000 "
Calcium carbide	193,000 "
Glycerine	73,000 "
Sodium Hydroxide	969,000 "
Salt cake	269,000 "
Chlorine	446,000 "
Fertilizers	9,682,000 "
Ink	120,000 "
Linseed oil, cake, and meal	906,000 "
Lime	3,659,000 "
Manufactured ice	34,069,000 "
Carbonated beverages	354,478,000 cases
Canned vegetables and soups	200,092,000 "
Canned fruits and juices	63,764,000 "
Ice Cream	252,299,000 gals.
Whiskey	153,985,000 "
Books, pamphlets, and maps	518,074,000
Boots, and shoes, (pairs)	425,000,000
Bricks	4,278,189,000
Tumblers, glass	541,059,000
Tablewear, glass	578,817,000
Bottles	7,808,290,000
Tin cans	16,215,913,000
Safety razor blades	1,759,933,000
Clocks and watches	32,235,000
Lamp bulbs	788,555,000
Cigarettes	169,946,440,000
Matches	411,150,190,000

New prime movers added in 1937	19,973,000 h. p.
Total metal working machines †	1,341,942

TOTAL FUEL CONSUMED IN INDUSTRY, 1937

Anthracite coal	6,561,820 tons
Bituminous coal	162,960,976 "
Coke	42,194,064 "
Fuel oil	136,255,044 bbl.
Gas	2,825,973,829 M cu.ft.
Electricity	45,924,221,144 Kw.-hr.

* *Biennial Census of Manufactures, 1937*
† *American Machinist*

which the United States has spent on national defense in the last five years has really gotten us only a toe hold. The larger problem of Continental defense looms ahead and its cost will mount to somewhere in the neighborhood of 100 billion dollars.

The United States and Canada are the world's two outstanding national entities in their development of technological production and their consumption of extraneous energy converted from oil, coal, gas, and hydroelectric power. This part of the North American Continent is the outstanding area of the world in its possession of installed horsepower of prime movers, technological processes, and power driven machinery.

In the past ten years the industrial expansion of the United States and Canada has slumped badly. Private business was unwilling to create sufficient new debt to produce the necessary expansion of the technological equipment of this Continent. Private business was unwilling to finance any further industrial expansion because any further expansion of America's industrial equipment in the past ten years would have been unprofitable and would have contributed to the further destruction of outstanding values of this Price System. Private business has surrendered the prerogative of creating debt in Canada and the United States to our so-called political governments. Our political governments, through the process of unbalancing the national budgets, have sought to inject sufficient stimulation of public funds to save the *status woe* of this Price System.

The handwriting is on the wall.

Continental defense will demand the greatest industrial expansion this Continent has ever known, an expansion far beyond the petty projects now proposed for our national defense. The industrial expansion necessary for the accomplishment of Continental defense will require, not only a huge installation of plant and equipment but, practically the entire modernization of the strategically capable components of our existing industrial plant.

The present plant equipment of the United States has not been kept up to date. It has not been modernized because private business and national politics in the last decade have combined in a policy of restriction that has resulted in our present condition of national defeatism in our technological equipment. Seventy percent of the machine tools of the United States are over 10 years of age; 60 percent of the railway locomotives are over 20 years of age; approximately only 4 percent of the entire industrial equipment of the United States is really modern in design and control. Yet, in spite of this condition, the technological equipment of the United States and Canada constitutes at this time the greatest known social force ever at the disposal of a human society. This force must be organized for a planned objective under a unified control. Industrial mechanization must be installed on a Continental basis far beyond anything that we have known. *America must move forward and mechanize to the limit.*

The physical wealth of this Continent is produced mostly by the application of extraneous energy to machine tools and technological equipment. We differ from Europe and Asia. On those Continents they will be compelled for some time to come to produce their physical wealth mostly by the application of human toil to hand tools. Here on this Continent technology, power, and

TABLE IV

More Industry

THE TECHNATE ALSO MANUFACTURES—		American Technate	Rest of the World	World Total
35	percent of the world's alcohol [1]	9,463	17,394	26,857
78	" " " " automobiles [2]	5,016	1,366	6,382
32	" " " " beer [1]	73,935	154,065	228,000
29	" " " " benzol	402	968	1,370
19	" " " " nitrogen	519	2,211	2,730
53	" " " " paper & paper bd.	15,630	13,880	29,510
28	" " " " rayon	153	391	544
33	" " " " soap	1,655	3,345	5,000
43	" " " " shoes [3] (leather)	429,134	565,817	994,951
30	" " " " sulphuric acid	4,762	11,338	16,100
71	" " " " tires [2]	55,710	22,790	78,500
46	" " " " wood pulp	10,953	13,307	24,260

These items are but a few for which world totals are available, and which are not mentioned in other tables herewith. See Table III for additional U. S. manufactures.

Quantities: 000 omitted from all quantities.

Units: All figures unless otherwise indicated are in metric tons. Other units are *1,* hectoliters; *2,* number; *3,* pairs.

Sources: Statistical Yearbook of the League of Nations, 1938/39; automobiles are from the Automobile Manufacturers Association; shoes are from Bureau of Foreign and Domestic Commerce.

Date: 1937 except shoes which is 1938.

TABLE V

Some Equipment and Resources †

Item	American Technate	Rest of the World	World Total	Technate Percent of World Total
Automobiles [1]	31,221,000	12,077,000	43,298,000	72
Telephones [2]	21,679,000	19,411,000	41,090,000	53
Radio Sets [3]	42,535,000	42,265,000	84,800,000	50
Railroads (miles) [5]	335,000	485,000	840,000	42
Merchant ships (tons) [6]	14,403,000	51,883,000	66,286,000	21
Telephone wire (miles) [2]	99,630,000	74,918,000	174,584,000	58
Telegraph wire (miles) [2]	2,849,000	3,881,000	6,730,000	42
Highways (miles) [7]	3,594,000	6,093,000	9,687,000	37
Spindles [8]	31,674,000	117,944,000	149,618,000	21
Looms [8]	725,000	2,345,000	3,070,000	24
Navigable rivers (miles) [9]	46,000	166,000	212,000	22
Fresh water (sq. mi.) [10]	132,000	128,000	260,000	51
Irrigated land (ac.) [11]	26,834,000	173,751,000	200,585,000	13
Forest reserves (ac.) *[12]	1,796,000	5,691,000	7,487,000	24
Cattle [13]	93,272,000	535,728,000	629,000,000	15
Sheep [13]	51,604,000	541,396,000	593,000,000	9
Swine [13]	50,545,000	204,455,000	255,000,000	20

Sources: 1, Automobile Facts and Figures, 1939; 2, American Telephone and Telegraph Company; *3,* United States Department of Commerce; *5, Encyclopedia Britannica; 6, Statistical Yearbook of the League of Nations, 1938/39; 7, Automobile Facts and Figures, 1938; 8, Encyclopedia Britannica; 9,* Estimated from data supplied by Bureau of Foreign and Domestic Commerce. America's percentage would be enormously increased by full utilization of its rivers. See *Technocracy,* A-17; *10,* Lakes of over 2,000 square miles; *11 Encyclopedia Britannica; 12, Forest Resources of the World,* by Zon and Sparhawk; *13, Statesman's Yearbook, Encyclopedia Britannica, Statistical Abstracts of U. S.*

* 000 omitted. Technate total includes some 424 million acres tropical hardwoods or 12 percent of world's total tropical hardwoods.

† 1937 where obtainable; in some cases earlier years.

In addition to all of the products listed in the accompanying tables, the area defined as the Technate of America can produce the following items in sufficient abundance for the requirements of the population of the Technate: chicle, rubber, sisal, copra, sugar, coffee, silk, tea, cinchona (quinine), tung oil, perilla oil, bananas, papaya, and cocoa, and other tropical products.

the machine dominate the scene. In spite of all the restrictions and blockades instituted by politics and business in the last ten years, technological productivity continues to increase and the threat of a technological abundance hangs over the social institutions of this Continent of North America like the sword of Damocles.

This country and this Continent will be forced by the imperativeness of defense into a new, great technological orientation of the means whereby we, the people of this Continent, live.

The 11,000,000 unemployed of the United States are unemployed because the resultant production of the technological equipment of this country is so great that the purchasing power of the employed is insufficient to buy the production and reemploy the 11,000,000 in further production. The majority of our unemployed have been rendered unnecessary as producers, not by the 70 percent of obsolescent equipment still in use in these United States but by less than ten percent of the modernized processes and equipment.

The people of this Continent must realize that we are headed for social change at an ever-increasing speed. Internally we have been indulging in an escapism. We have tried to escape from drowning in our own abundance by attempting to kill the abundance of this technological America. The social structure of this Continent and this country has been collapsing from the inside and now we are in danger of having it caved in from the outside. America in the past ten years has consistently and continually refused to deal honestly with the social problems of its internal structure. America, in this period of world crisis, is still refusing to deal with its internal problem.

America continues to indulge in a greater escapism through its fear of a foreign enemy. This country and this Continent have external enemies, for this Continent is the treasure house of the world, and every foreign nation has always sought, if it were able, to benefit from the physical production of this Continent. This Continent, since 1000 A. D., has been invaded by the Norse, Vikings, Spaniards, Dutch, Swedes, French, British, Russian, Portugese, Africans, Germans, Asiatics, and Italians. This Continent has been invaded by migrations, by the force of arms, by diplomacy, intrigue, religion, and money. All invaders of this Continent have sought to benefit thereby, and now there are those abroad who view this Continent as the prize plum of conquest of all history.

A Continental Social Pattern

In the last four hundred years this Continent has been altered and changed from the pre-Columbian civilization found by the first European invaders to a civilization, a culture that is Continental in character and technological in function. The culture of this Continent is unique. It is endemic to this area and, while it has borrowed in the past from the cultures of other lands, it now finds itself antithetical to all alien cultures. The art of Europe is a subjective interpretation of its way of life. The art of Europe has no place here, for it is not a subjective interpretation of the way of life of this Continent. Millet's painting, 'The Man With the Hoe,' is interpretative art in Europe but on this Continent it is an alien portrayal of alien methods. America's way of life is portrayed, not by the subjective interpretation of the individual artist, but by mass achievements in the technological application of physical science to the means whereby we live. The culture of this Continent is one far-flung design, with a Continent for a canvas. Civilization here is not composed around the stomp time of European music but moves to the rhythm of its machinery and its rivers.

As technology more and more pervades our way of life we, the people of this Continent, will find ourselves more and more in conflict with the last remaining remnants of alien cultural intrusion on this Continental Area. The two outstanding examples of alien remnant cultures on this Area are the French habitant culture of Quebec and the hacienda culture of that part of the Continent south of the Rio Grande. This Continent must face this conflict of cultures. This Continent must realize that the destiny of this Area prescribes only one outcome—that these alien cultures on the Continent of North America be annihilated. Assimilation is out of the question. Time waits for no man and this Continent can give us everything but time.

We must realize, here and now, the utter stupidity and the atrocious fallacy of our present 'good neighbor' policy toward the nations of South America. The South American nations are by language, culture, and race fundamentally fascist in their program of social action. They have never been and can never be good neighbors of this Continent. These nations are political oligarchies whose fascist way of life is fundamentally opposed to the way of life of this Continent of North America. They do not respect us because we have attempted to deal with them on the basis of mutual understanding. Such attempts in our national policy have engendered only their contempt because understanding is impossible. The only action from this Continent they will respect is that of force—force powerful enough to be utterly ruthless and so efficacious in the swiftness of its execution that it will brook no opposition. Then, and not until then, will this Continent have the respect of the remaining nations of the Western Hemisphere. This Continent should neither look nor hope for any understanding in the immediate years-to-come on the part of our South American neighbors.

On the map accompanying this issue is delineated the geographical territory required for the adequate defense and operation of this Continental Area. It will be noted that the area in red is inclusive of those Spanish-speaking countries south of the Rio Grande, namely, Mexico, Guatemala, Honduras, Salvador, Nicaragua, Costa Rica, Panama, most of Colombia, Venezuela, the French, Dutch, and British Guianas, and the entire West Indian Islands. This area is overwhelmingly Spanish in language with slight

TABLE VI

World Agriculture Production 1937

Product	The American Technate	Rest of the World	Total World	Technate Percent of Total World
Wheat	291,210	1,188,190	1,479,400	20
Rye	14,123	211,777	225,900†	6
Barley	66,830	260,870	327,700†	20
Oats	210,007	265,793	475,800†	44
Corn	700,000	449,000	1,149,000†	61
Rice	14,600	925,400	940,000	1.5
Potatoes	131,401	1,728,599	1,860,000†	7
Beans	11,570	25,430	37,000	33
Cane-sugar (refined)	54,260	119,640	173,900	31
Beet-sugar (refined)	12,230	89,570	101,880	12
Grapes	25,580	309,420	335,000	8
Olives	254	33,726	33,980	.7
Citrus fruits *	12,711	63,789	76,500	17
Citrus fruits **	3,430	5,370	8,800	39
Cacao	792	6,218	7,010	11
Tea	.....	4,600	4,600	..
Coffee	6,220	18,660	24,880	24
Tobacco	8,170	16,230	24,400	33
Hops	206	432	638	32
Soya beans	12,321	55,379	67,700	18
Ground-nuts	6,101	59,299	65,400	9
Sesame	268	6,832	7,100	4
Linseed	2,030	23,370	25,400†	8
Cotton-seed	78,050	89,350	167,400	47
Ginned cotton	41,876	40,524	82,400	51
Rubber [1]	3,799	1,212,721	1,216,520	.3
Eggs [a]	40,325	37,883	78,208	51
Butter [2]	1,128	2,132	3,350	33
Cheese [2]	455	1,645	2,100	22
Milk [3]	541,973	1,408,027	1,950,000	28
Meat [2] ***	8,059	12,180	20,239	40
Fish [2] ‡	2,250	10,550	12,800	18
Wool [2]	220	1,553	1,773	12

Fertilizer Production 1937

Natural phosphates [2]	4,432	11,033	15,465	28
Superphosphates of Lime [2]	4,079	12,021	16,100	25
Potash (K_2O) [2]	258	2,902	3,160	8
Cyanamide of Calcium [2]	147	1,358	1,505	10
Sulphate of ammonia [2]	781	5,019	5,800	13
Sulphur [2]	2,803	587	3,390	82
Sulphate of copper [2]	43	354	397	11

Quantities: 000 omitted from all totals (*a*, eggs, 000,000 omitted.)
Units: All quantities unless otherwise indicated are in quintals. (A quintal is a metric unit of weight equalling 220.46 avoirdupois pounds.) Other units are designated as follows: *1*, kilograms; *2*, metric tons; *3*, hectoliters.
Sources: Statistical Yearbook of the League of Nations, 1938/39; and *International Yearbook of Agricultural Statistics, 1938/39.*
† Excluding Soviet Russia, data unavailable.
‡ 1935.
* Oranges, mandarines, grapefruit.
** Lemons and limes.
*** Beef, veal, mutton, goat, pork.

areas of French and Dutch. We should immediately acknowledge our planned intentions of consolidating these territories, not as separate political entities, but as part of the Continent of North America.

If further material aid to the Allies is contemplated this nation should immediately rule that no goods of this country be paid for in monetary credits, or gold, or silver. We, as a nation, should be frank enough to take over the French, British, Dutch, and Danish possessions of North America in payment of their past war debt and for an acknowledged purchase price of 15 billion dollars worth of American goods. The nations, whose territories are involved and under Allied command, should, as evidence of their good faith, deed over immediately these territories to the United States of America in return for the foregoing stipulated sum of the munitions of war that would be supplied to them by the productive facilities of this country.

America must possess all territories marked in red, on the accompanying map of the Technate, for the defense of this Continent. Any denial of this fact on the part of our national leaders must be recognized immediately as evidence of Continental sabotage. The United States of America is the dominant nation of this Continent, and this Continent of North America must be consolidated under its direction and leadership. The government of the United States should take immediate action to acquire these territories and others, such as Greenland and the Galapagos Islands. The acquisition of these territories should be a mandatory part of the program of Continental defense for immediate achievement—either by purchase, negotiation, or the force of arms.

Technocracy has long since pointed out that this nation's war is here on this Continent and that the only way we of America can win this war is by the frank admission of what has to be done. *This* is the first essential requirement of a Continental strategy. There will be those chicken-hearted liberals and maudlin sentimentalists abroad in our land who will immediately scream out the cry of 'Imperialism!' at this program of Technocracy. They belong with those thousands of Americans who are anti-something or other through the whole gamut of extremities. Technocracy's program of Continental defense will naturally be resented by all those negative native Americans and all those hyphenated Americans who, by intention or ignorance, are opposed to a unified control of Continental purpose.

'Divide and rule' has been the fundamental premise of European statesmanship for over 2,000 years. Written across this Continent by our engineering equipment is the technological dictum: 'Unite and operate!' We of America have but to obey.

The pressure of world events will compel a Continental defense. The creation of a Continental defense will necessitate that the territory in red on the enclosed map be consolidated into one operating Continental social mechanism, under one technological control, speaking one language, and having but one culture so that this Continental Area may become one nation, one people, one and indivisible.

Continental and world conditions necessitate immediate action by the United States of America in adopting a Continental strategy of operations with its accompanying program of Continental defense. Therefore, Technocracy urges immediate institution of its program of Continental defense by the United States of America as follows:

Operation for Defense

The Government of the United States shall immediately institute a three-year compulsory Continental defense training for both males and females beginning at 18 years of age and terminating at 21.

The Government of the United States shall maintain a standing armed force of 1,000,000 engineer-mechanics in order to provide sufficient, trained personnel to handle the approximately 2,000,000 youth called up for service annually.

The Government of the United States shall institute, as part of this program of Continental defense, immediate conscription of all national corporate wealth and its attendant institutions such as banks, trusts, and insurance companies.

The Government of the United States shall conscript all of the physical facilities and operating personnel of rail, bus, water, and air transportation.

The Government of the United States shall conscript all of the physical facilities and operating personnel of all telegraph, telephone, and radio communications systems.

The Government of the United States shall conscript all of the physical facilities and operating personnel of public utilities and power producing and transmission systems.

The Government of the United States shall conscript all of the physical facilities and operating personnel of the manufacturing industries of the country.

Much has been said about the immensity of Europe's defensive fortifications as engineering projects. Americans seldom realize the gigantic size of our engineering works on this Continent. It is said that Grand Coulee Dam alone contains more steel and concrete than the entire Maginot Line, and that the Pennsylvania Turnpike involved the removal of more earth and the placement of more steel and concrete than the entire Westwall! This photo shows another 'defensive' structure that outclasses many of the famous forts of Europe. There are no gun emplacements, for this is for the defense of America against toil, poverty, and scarcity. In a real sense too, it is a contributing factor to the defense of this Continent against external aggression, for America's horsepower, properly handled, will defeat any combination of European or Asiatic invaders. Photo shows a construction phase of the Pensacola Dam on the Grand River, Oklahoma. Downstream view shows bridge arches, powerhouse steel, draft tube openings, construction trestle, and concrete mixing plant midway of the dam. Incidentally, this project was threatened by political interference from the state government!—(Photo by Holway and Neuffer, Engineers)

The Government of the United States shall conscript all of the physical facilities and operating personnel of all corporate enterprises engaged in mining.

The Government of the United States shall conscript all of the physical facilities and operating personnel of all export and import corporations. The Government of the United States shall be the sole exporter and importer.

The Government of the United States shall conscript immediately all patents, inventions, and processes extant in our national domain whether of foreign or domestic ownership.

The Government of the United States shall assume all financial indebtedness of all municipalities, counties, and states; and the Governernment of the United States, in return for assuming complete responsibility for the financial obligations of all municipalities, counties, and states, shall arrogate to itself the sole power of levying all taxes now levied by them.

The Government of the United States, as a measure of national safety and national welfare, shall close all public bars, and limit the sale of spirituous beverages, wines, and liquors to restaurants, hotel dining rooms, and licensed liquor stores.

The Government of the United States, as a measure of national safety and national welfare, shall abolish all foreign language periodical publications, foreign language advertising, and foreign language radio programs for American consumption.

The Government of the United States, as a measure of national safety and national welfare, shall abolish all foreign language and hyphenated American organizations, associations, and fraternal societies regardless of whether they have been formed to promote political, commercial, cultural, educational, linguistic, artistic, or other relationships.

The Government of the United States shall prohibit the transfer of United States purchasing power in the form of currency, notes, drafts, or money orders by all corporations and residents of the United States to any corporation or resident of any alien country.

The United States Army shall be directed under the unified control of a land command. The United States Navy shall be directed under the unified control of a sea command. The United States Air Force shall be directed under the unified control of an air command. The fortifications of the Continental defense shall be directed under the unified control of the fortifications command. The entire command of the armed forces of Continental defense shall be directed by the Commander-in-Chief.

All industry, mining, transportation, communication, and other necessary units of Continental operation shall be unified under various functional commands such as transportation command, etc., under a technological command of the whole. The entire technological command and the entire armed force command will be under the unified direction of the Commander-in-Chief.

TABLE VII

Fuel Consumption

(Total in United States-Canada, 1937)

Coal (short tons)	457,941,314
Petroleum (bbl.)	1,051,292,250
Natural gas (cu.ft.)	2,433,332,438,000
Hydroelectricity (kw.-hr.)	72,954,723,000

Canada Yearbrook, Statistical Abstract of the United States.

Petroleum consumption of Canada estimated.

America faces simultaneously both opportunity and disaster. Destiny knocks at the door of this Continent—the doorway to a new Continental social order. We must answer this opportunity of destiny—or face the disaster of the anarchy of our moronic national mediocrity.

America faces the greatest social change in the recorded history of mankind—the downfall of the Price System, the end of a social epoch. The march of events decrees that America must face the greatest issue of all time.

Continental defense will automatically accelerate social change. One is impossible without the other. National defense under the Price System will but spawn the devil's brew of more profits, more millionaires, more relief, more unemployed, more debt, more taxes, more liquidity, and more desperation. America cannot grasp the opportunity of its Continental destiny while bogged down in the swamp of private enterprise, private profit, personal opinion, and putrid politics.

America will never arrive at its rendezvous with destiny encumbered with 48 sovereign states, 3,700 glorious counties, 19,000 police forces, 165,000 political governing bodies, 460,000 corporate enterprises, 1,543,000 retail stores, 11,000,000 unemployed, 20,000,000 on relief, and 80,000,000 adults with 800,000,000 opinions expressing the nihilistic negation of all positive direction.

America is at the end of an epoch. The epoch of small operation and small countries is at an end. The new epoch of Continental operations is about to be born.

The Continental defense program of Technocracy is an emergency transitional device to usher in the timely arrival—in an orderly manner and by efficient means—the new social order, the new design for living that this country and this Continent must possess. America must organize and execute swiftly and efficiently. We, the citizens of this country, must organize for one design. We must possess one unity of purpose. We must become one national endeavor. We must have but one patriotism. We must have but one objective. We must have but one direction. We, the people of the United States, must have all of these so that we can act as one.

We, the people of the United States, must have all of these to act at once so that this country and this Continent may remain America now and forever.

TABLE VIII

ENERGY—THE WORLD'S WORK

INSTALLED PRIME MOVERS—A MIGHTY ENGINE [1]

(Horsepower, 1935)

United States		Canada	
Industrial power plants	20,133,000	Central electric stations, hydro	7,104,142
Electric central stations	44,670,000	Central electric stations, steam	197,350
Electric railway plants	2,500,000	Mfg.—Internal combustion engines	88,265
Isolated nonindustrial plants	1,500,000	Mfg.—Steam engines and turbines	774,166
Mines and quarries	2,750,000	Mfg.—Hydraulic turbines	603,717
Agricultural prime movers	72,763,000	Other hydro installations	482,151
Cars, buses, trucks, etc.	965,000,000	Airplanes	241,000
Airplanes	3,500,000	Locomotives	9,370,000
Locomotives	88,000,000	Marine	3,000,000
Marine	30,000,000	Agricultural	7,000,000
		Automobiles	46,300,000
	1,230,816,000		75,161,000

	Technate of America	Rest of the World	World Total	Technate Percent of World Total
World Output of Electricity 1937 [2]				
KILOWATT-HR.	**151,528,000,000**	**272,472,000,000**	**424,000,000,000**	**36**
KW.-HR. PER CAPITA	**770**	**141**	**200**	**385**
World Fuel-Energy Resources [3]				
COAL (tons)	**5,627,823,000,000**	**2,526,499,500,000**	**8,154,322,500,000**	**69**
PETROLEUM (bbl.)	**13,706,000,000**	**8,259,000,000**	**21,965,000,000**	**62**
GAS (cu. ft.)	**62,000,000,000,000**			**80***
World Waterpower (hp.) 1938 [4]				
DEVELOPED	**27,077,000**	**36,923,000**	**64,000,000**	**42**
POTENTIAL	**91,800,000**	**579,200,000**	**671,000,000**	**14**

1. United States data from *Technological Trends and National Policy,* 1937, National Resources Committee. Canadian figures estimated from data in *Canada Yearbook* on the basis of power factors given in *Technological Trends.* (Additions since 1935 plus prime movers in the rest of the Technate would raise total to at least 1,600,000,000 hp.—by far the largest share of the world's total.)

2. Data from *Statistical Yearbook of the League of Nations, 1938-39* and from United States Department of Commerce.

3. Coal data from T. A. Hendricks, Geological Survey, U. S. Department of the Interior. Coal reserves of the United States will last approximately 2,000 years at maximum rate of consumption. United States reserves are 4 billion 231 million tons; Canadian reserves, 1 billion 360 million tons. Petroleum data by Garfias and Whetsel, *Proven Oil Reserves.* This gives United States reserves as 10 billion barrels; other estimates range from 5 to more than 15 billion barrels. World gas figures are not known, but R. E. Davis in a paper presented to Am. Gas Assoc., 1935, estimated natural gas reserves of United States at 62 trillion cu. ft. Other estimates range to 100 trillion. *Estimate.

4. Data from Geological Survey, U. S. Department of the Interior, May, 1939. Developed power is based on installed capacity of constructed plants of 100 hp. or more. Potential power is based on ordinary minimum flow (flow for 95 percent of the time) and 100 percent efficiency; also on existing flow and does not take storage into consideration. This will vastly increase America's potential. (The bulk of the world's potential waterpower is in Africa which is credited with 274 million horsepower.)

No Platinum Handcuffs!

Seven years ago the Price System turned on Technocracy with bitterness and ridicule. Today, Technocracy, vindicated by the march of events, presents the facts, wondering what other organization or national figure could republish today its statements of seven years ago.

In the February 23, 1933, issue of *The New English Weekly* appeared a letter to the editor which read in part: '. . . several weeks ago he (Howard Scott) "muffed" one of the greatest opportunities that has ever befallen a single man in this country. The National Broadcasting Company had a record hook-up, a truly enormous number of stations both in and without its own large system, to broadcast a talk from the elite Hotel Pierre before a distinguished gathering. . . . Were Scott a leader, he would have turned this country upside down, he could have mustered an immense personal following and Technocracy would have been a power to menace the powers that be. It is impossible to estimate the number of listeners, but they were in the millions. Scott is a prophet, a dreamer, a revolutionist at heart, and has a brain that amounts to genius. But he has no leadership ability. He can't even explain his own doctrines. The name Technocracy and the organization will decline very rapidly. . . . The jig-saw puzzle craze has superseded Technocracy and we will have to wait for developments elsewhere. One thing is lasting; that is the impression left among the masses.'

After seven years it is interesting to examine the circumstances of the famous Hotel Pierre address. Thanks to the press, Technocracy, then a purely research organization, had been blazoned as mankind's modern Messiah. (Technocracy was not the instigator of this premature publicity.) Millions were interested and it had attracted attention in high places. The intelligentsia, the literati, big politics, big business, and education were applying pressure from every direction. Each wanted to use Technocracy for its own pedestal. Some were backed by influence, some by considerable cash.

On January 13, 1933, the swank dining room of the Hotel Pierre in New York was filled, by invitation of the Society of Arts and Sciences, with the upper crust of America's Price System—at $10 a plate. Representatives of 40 billion dollars of capital were present —a most distinguished gathering. The address was broadcast over a coast-to-coast network in the United States and Canada, and by short wave to the world. The lecture was expected to please the vested interests present and to give a thorough and complete exposition of all that Technocracy meant in 55 minutes!

If the lecture, accordingly, had depicted Technocracy as an innocuous research group contented to dabble in the academic dilettantism of economics it would have been received with open arms both by the merchants of debt and by the academic world. Probably it would have been handsomely endowed for a secure and useless existence, but—Technocracy, as a social organization, would have been sold down the river.

For the expectant throng the denouement was complete and devastating. Howard Scott—'with no leadership ability'—knew that one radio broadcast would not make a social movement and that one banquet of funded wealth would not build a Continental organization. He threw the bribe back, and the writer in *The New English Weekly* echoed the sentiment of the intellectuals when he wrote that Technocracy had 'muffed' its opportunity—it had. But that writer was also more correct than he knew when he said: 'One thing is lasting; that is the impression left among the masses.'

From that day on, the publicity turned to a storm of ridicule and abuse, and, likewise, from that day on Technocracy Inc.—the Organization—began to grow. Thanks again to the press and the Price System the significance of the event was proclaimed and the address was unwittingly given its real significance. Today we present it to the Technocrats of North America as one of the milestones in Technocracy's march to the New America. Editor. (Next page.)

The Hotel Pierre Address

By Howard Scott

TECHNOCRACY, speaking tonight from Regional Division 7340, salutes the radio audience of America.

At the outset, Technocracy desires it to be understood that all of this publicity has broken upon it like nothing else that has happened to any similar organization in the history of man. Months ago we were unknown, working quietly as a non-profit research organization which in the year 1932 had expended less than $1,200 for administrative purposes and had received not more than $300 exclusive of the subscriptions of its members. To date it has written fewer than 14,000 words but, judging from the response on this Continent and abroad, those 14,000 words have done their work well—too well perhaps, since most of the clamor in the press, pulpit and elsewhere has not, of necessity, the slightest genuine connection with the work, data and principles of Technocracy. Let it be said also that most of the many attacks against us originate in the camps of the liberals, economists, social philosophers and others of the tribe of axiologists * who are all interested in the preservation of 'values' that have no functional relationship to the problems of a modern industrial society. These attacks, however beneficial to the newspaper and publishing interests, have added nothing to a proper understanding of our work.

Technocracy is a dual thing. On the one hand it is an organization of scientists, engineers, technologists and workers in other technical fields; on the other, it is a body of thought. This body of thought may be concisely described as a technological approach to, and an analysis of, all social phenomena. Technocracy is not premised on any philosophical preconceptions, convictions or beliefs. Technocracy is based primarily on a study of the rates of growth of all energy-consuming devices on this Continent as a function of time. Technocracy is concerned with the natural resources available for conversion into use-forms and their quantities; with the quantity of energy and materials consumed in the proper operation of the physical equipment on this area; with the number of people required in this total operation and the hours of work within a given time. These are some of the principal questions with which Technocracy has always been, and is now, concerned.

Tonight we would like to take this gathering and the radio audience of this Continent back a few pages in the history of this country and in the biologic progression of man.

Ever since man was driven from the jungle by his more agile but less enterprising relative, the ape, he has been conducting a long and arduous struggle, fighting his way toward ever more effective sources of energy. In this struggle the problem of population has come to play an increasingly important part. For example: in the 200,000 years prior to 1800 the biologic progression had so far advanced that the total world population of the human species in the latter year was approximately 850,000,000. In the subsequent 132 years this population grew until it is now approximately 1,800,000,000—a greater increase than in the previous 200,000 years.

The point to be especially noted is that most of this population increase is due to the introduction of technological procedures into social life. By way of contrast, consider China. According to the Nanking estimates of 1932, China has a population of 470,000,000 today, an estimated growth of only 71,000,000 in the past two centuries. Similarly, France—according to the estimates of Reid, Baker, and others—would require over four hundred years to double its present population of approximately 40,000,000. *Both of these countries are admittedly backward in their rates of growth on the technological level;* that is to say, neither of them has taken full advantage of the incentive to population increase afforded by the introduction of technological procedures into their social life.

Compare these examples with the United States. In 1830, slightly over a century ago, this country had a little more than 12,000,000 people. Today the figure is approximately 122,000,000—an increase of 10 times in a century. Now set these figures against the background of the energy consumption during the same period: In 1830 we were consuming as a nation less than 75 trillion British Thermal Units of total extraneous physical energy (derived principally from windmills and domestic animals with some coal and water power.) In 1929 we consumed slightly less than 27,000 trillion British Thermal Units of extraneous physical energy—an increase in the century of 353 times. What is the drift of such facts—which can be supported and strengthened from many sources?

Technocracy points out that in all social systems prior to the last 200 years man was the chief engine of energy conversion. Efficient from the mechanical point of view, this engine was severely limited in output, rating at approximately one-tenth horsepower per eight-hour day. All the work and wealth of human society from the dawn of recorded history to the beginning of the 18th century depended exclusively upon this engine. Thus we have Adam Smith, in the opening sentence of his famous book, (published in the same year as America's Declaration of Independence and, ironically, within a short distance of the town where James Watt was developing his steam engine) defining wealth in terms of *human labor* which in turn created all *values.* This was a correct description of the conditions of which Adam Smith wrote, but it has since become increasingly evident that man, as a creator of physical wealth, is receding more and more into the background, yielding, and not unwillingly, to the rapid growth of technology and of power procedures. Technocracy emphasizes that in all the older social systems there was no means of altering *the rate of doing work:* You could increase the total number of human beings only up to the physical limits of the area in which they lived; that limit reached, migration was the only alternative to the reduction of population by mass famine.

On this Continent, a century ago, the log cabins of our forefathers required for their operation and maintenance only the simplest of water-wheels, and windmills. There was no integration, no coordination or synchronization. The individual ego could be exercised to the full, and each local area could be manipulated according to the whims

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* From the Greek, meaning a student of the theory of values. *Axiology,* the theory of values, their unique forms and interrelationships, as the True, the Beautiful, the Good, contrasted with the scientist, whose proper concern is with quantities, their precise measurement, correlation and control in the interests of knowledge and the service of man.

of the individual operator. At this point we come to the basic question—the operation of a physical apparatus.

The law of impact states that when two oxcarts collide at three miles per hour there is no great danger of any serious results, and at this rate in an oxcart civilization you could do without good roads and stringent driving regulations. The driver could fall asleep, and even when awake required only moderate intelligence to prevent the mild order of disaster which might result from inattention; but increase the speed of the vehicle and the sequence of operations instantly changes. With a modern automobile you require not only roads but good roads. You cannot drive at sixty miles an hour on blind earth; the faster your rate of motion the smoother must be the path you traverse. Speeds of that order require a given curvature of road to prevent disaster; the maximum curvature possible for a road designed to carry traffic at any given speed can be determined in advance—and this determination will have no regard of the personal idiosyncrasies and capacities of the operator.

We have been experiencing a change in the magnitude of social operations due to the accelerating rate of doing work on this Continent. For precisely the same reasons we must consider, quantitatively, without personal allowances, the proper conditions under which this work may be accomplished smoothly.

It has often been said that if we could take the Chinese and somehow raise them bodily to the standard of living that prevails on the American Continent, not only China and the Orient would be benefited thereby, but prosperity would return to the United States and the Occident. Such reasoning is characteristic of the present confusion in social thinking which is still based upon the classical economics of human labor and 'value.' When, however, one realizes that prior to 1830 we, on this Continent and everywhere else in the world, consumed not over 2,000 kilogram-calories of extraneous energy per capita per day, and that in 1929 we, on this Continent alone, consumed a maximum of 154,000 kilogram-calories of extraneous energy per capita per day—when we realize this, the problem of China takes on a new and unsuspected aspect. In brief, in order to raise the standard of living of China to the present level of the North American Continent it would be necessary to expend two and one-half times the total energy consumed by the entire globe in 1929—a little puzzle which we may reasonably doubt even the capacity of the Chinese to solve.

Now, in 1933, after three years of the most unprecedented conditions that this country has ever known, when the oscillations of production have gone to greater extremes than have ever been witnessed in any preceding depression, we find ourselves with more unemployed than we had total population a century ago. Each succeeding declination in the production curves of pig-iron or of almost any other major industrial commodity swings lower, calling more forcibly to our attention the problems peculiar to a society increasingly dependent upon the correct operation of its physical equipment. It is these problems which Technocracy now poses, stating in particular that the continued substitution of physical energy for man-hours results, *not in technological unemployment, but in a reduction of total employment and of total purchasing power.*

Granting this inexorable replacement of human labor by physical energy, Technocracy makes the further statement that such a condition brings the social mechanism of this Continent into sharp conflict with the interference control vested in the *Price System* of production. The Price System, which we have defined as 'any means of exchange or energy-flow control founded upon a commodity valuation,' originated under those social conditions where human labor was the prime factor in the performance of work and the creation of wealth. The 'values' upon which this system rests and by which alone it may continue to function might be described as the condensate of human perspiration. Once you eliminate that—when sheer human toil becomes functionally insignificant—you have struck at the very heart of the Price System whose fundamental postulate is the continuance of man-hours as an appreciable factor in the total energy consumed by society. You cannot continue to eliminate man-hours and expect the Price System to remain stable: It will go out of balance in proportion to the rate of *social change,* and social change is here quantitatively defined as proportional to the rate of substitution of extraneous physical energy for man-hours in the operation and maintenance of an industrial social mechanism.

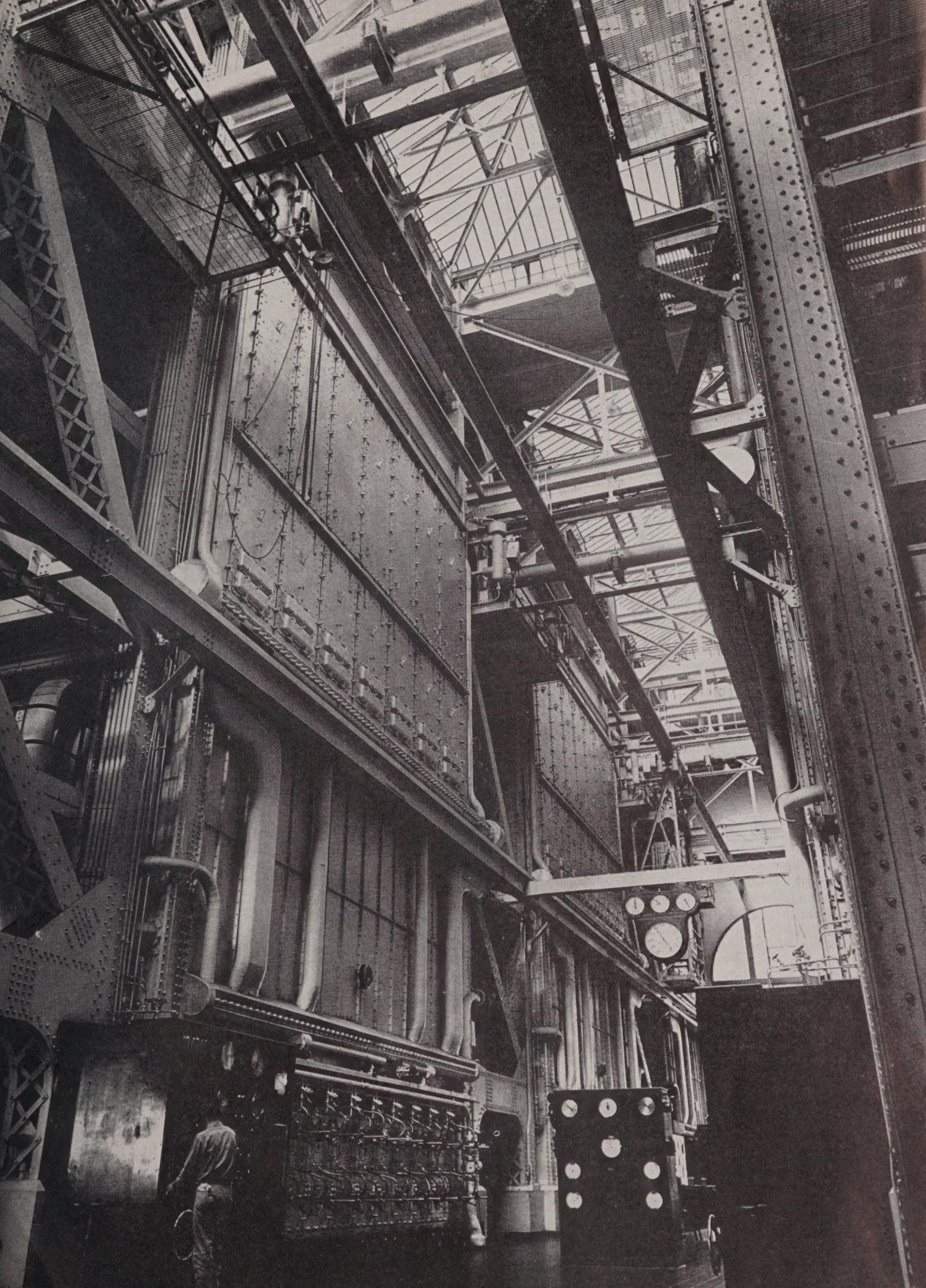
By way of illustration: Our first blast furnace in Massachusetts turned out approximately 3 tons of pig-iron a week. (My authority here is a published advertisement of the New York Trust Company.) A modern blast furnace, operating with less than half of the earlier total of men per furnace, will do over 1,000 tons per day. We are speaking, remember, of *changes of rate,* not of the total employees in the iron and steel industries.

The number of people required to shovel sand, coal, or ore by individual labor may be realized when you watch a power shovel with a 100-foot beam and a 95-foot stick moving 15 or 18 cubic yards of material a vertical distance equivalent to a six-story building. Just how many laborers would be required to move one load of that shovel an equal distance?

We are not here attempting to say—as many of our critics charge us with saying—that America is on the verge of chaos or an evil doom. We have merely maintained that *if present trends continue*—and we see no chance of them abating—you may expect a greater total unemployment in this country within eighteen months. At the present rate of these trends, and assuming their continuance, it is conservative to envisage a total unemployment in the United States within this period of over 20,000,000.

We make this statement knowing full well that debt moratoriums, inflation, and all other possible palliatives are going to be attempted with all the astuteness and dexterity that political chicanery can bring to bear in dealing with the problems of this Continent. We know also that

Prize winning shot of modern steam power plant. Electrical production in United States, 1939, totaled 130,000,000,000 kw.-hr., 12 percent over 1938. Installed capacity increased by 1,275,891 kilowatts to a new high of 40,318,000. The average amount of fuel required to produce a kilowatt of energy was reduced to an all-time low. Kilowatt-hours per capita increased from 410 in 1920 to 994 in 1939 or an increase of 142 percent. (Photo by *Electrical World*)



the debt merchants will exercise their legerdemain to the full in order to save the face of the present situation. Inflation, which is now one of the prime concerns of Congress, would be of real interest only to those who possess above a certain number of debt claims, because they alone can go into debt fast enough to take advantage of inflation. The man who works for wages or a salary cannot go into debt and thus cannot take advantage of inflation, the privilege of debt being in other hands.

So it has come about that Technocracy, in the full blaze of world publicity, will experience attempted exploitation by those with whom it has, and can have, nothing in common. The politicians and debt merchants of the day will be moved to employ Technocracy as one of the cornerstones of a new political state; they may even go so far that, under the color of Technocracy, an institutional fascism will be introduced as one of the dictatorial prerequisites of the incoming president. This and many other efforts will be made to utilize the work which Technocracy so quietly initiated, but we, ourselves, will consistently maintain the position from which we started—that you cannot continue to do certain things on this Continent; that people and times have changed; and that any decisive moves toward readjustment must be the responsibility of those who control the policies of this country.

We have accomplished very little, but it has become clear that, if present conditions continue, we shall be forced to consider problems more grave than any with which this country has so far concerned itself. Yet America has just lately had a national election, and not a single outstanding figure in politics or finance has come forward with any proposal that has one iota of usefulness in dealing with these conditions and these problems.

To an outside observer America would appear to be a nation that is rapidly sinking to greater social instability and whose leaders lack intelligence to offer us more than soporifics and palliatives. The past three years have brought forth nothing genuinely relevant to the situation and, if this barrenness persists for another ten years, we are due for one of the gravest social readjustments that this country has ever experienced.

James Watt produced his steam engine at about the time the Constitution of this country was drawn up. There is a profound significance in this fact. It meant that the epoch of social change, as above defined, opened with the commencement of the United States as an independent political unit. It meant that all the political instruments and economic theories carried over from an older time would become obsolescent on an area exceptionally favored by nature for the richest development of power—an area to be subsequently exploited to the full in that direction.

A similar irony of events brings me to speak tonight in a hotel that yesterday was sold on the block under the hammer of the auctioneer. Symbol enough of the financial obsolescence brought about by the very technological procedures misapplied to its design and construction! As the Irishman said, 'Sure and it was no good before it was built.' Throughout the United States today we have an identical situation.

Bear well in mind that under a Price System monetary wealth is equivalent to the creation of debt; *physical wealth,* on the other hand, is the conversion of available energy into use-forms and services. Under a Price System the process of being wealthy is the collection of debt claims (such claims being represented by the amount of 'money' you possess); *physical wealth,* on the other hand, is a degradation of converted energy into total uselessness, or, complete consumption. You are not physically wealthy in the possession of debt claims against an automobile company (that is, through being able to buy its product); you are wealthy, in the physical sense, only when you are wearing a car out through use.

Let us put this question of debt in another form. The population of this country during the past century has increased as the square of time, production as the cube, total debt as to the fourth power, and available energy as to the eighth power. You are putting your goods 'in hock' faster than you make them. Note now this peculiarity about debt: The more use we make of it the more we have. This is in complete violation of the basic laws of physics which state that the more we use of physical things the less we have of them.

Today, with over 200 billion dollars of total debt in this country, we find ourselves owing four times per capita as much as we did in 1895 and sixteen times as much total according to one of our economists. Do not forget that in 1893, 1907, and 1920 we had write-downs of this total debt, but its rate of growth is inclusive of all the write-downs, and the debt continues to mount thus continually throwing the system out of balance.

How then is it proposed to handle a Continental setup wherein the production of physical wealth has passed from the direction of one process to that of another?

The Price System goes back to remote history. We have had variations of it for thousands of years. Russia today operates under a Price System, even if it has eliminated private enterprise and commercial initiative. Its mechanics of exchange and its evaluation procedure are on the same basis as those of the United States—it has internal bonds, corporation charters, corporation stock; it pays wages and salaries and buys and sells on a commodity valuation basis. These things cannot exist without the Price System—from which Russian communism believed it had escaped. Furthermore, Russia had to call upon the outside world for technical assistance in the introduction and use of new machinery—the foundation of the new social mechanism she wished to set up. Unfortunately, a great part of this machinery was sold to Russia by businessmen who were anxious to unload stocks of this equipment already obsolete. Tractors that were made to sell to the backlot farmer of 140 acres should never have been sold to the gigantic farms of this new state. But Russia is learning her lesson and doubtless by now is rectifying these errors.

If you plot the growth of population on any given area subject to a high-energy consumption, then you must also plot the growth of all energy-consuming devices on that area—for this reason: The only distinction man possesses functionally, the one thing which differentiates him functionally from all other species, is his capacity to design and construct *organic extensions,* that is to say, energy-consuming devices independent of himself and capable of operating at high capacity with a minimum of human labor and attention. Under the compulsion of this technological development our modern world has reached a point where a laissez-faire economy can no longer be maintained. It is

essential that we know the rate of growth of each and every energy-consuming device upon any given continental area if we are to operate successfully the physical equipment of that area at an energy consumption of 150,000 kilogram-calories per capita per day. The more energy we consume per capita, the greater the need for a change in the methods of control—exactly as in the change from an oxcart to an express train. The social mechanism of today has advanced to an order of magnitude far beyond the log cabin stage of our ancestors; the methods of control must be adjusted thereto.

Technocracy points out that these problems, if not solved, will lead to a situation of increasing gravity, possibly terminating in a secondary crisis. Attempts to balance our budget, to reduce expenditures on a downward curve, will simply mean less employment than before with a resulting decrease in purchasing power, and we will be compelled finally to such devices as debt moratoriums, debt holidays, inflation, and a free-for-all race as to who can create debt the fastest.

How long this can go on we do not know. We did not create the situation; we are not responsible for it. Machinery and power procedures are not guilty of the present situation on this Continent; neither are the engineer, the technologist, and the scientist. What we do know is that the past three years have been more conducive to social thinking than any similar period in our history, for it would seem that only under such conditions do we achieve some lucid intervals in our way of social thought.

We cannot push our industrial situation much beyond the point it has now reached. We have today a 'technological backlog' overhanging this country which makes our material backlog resemble a backyard woodpile. Yet, thanks to the prevailing interference control of the Price System and its corollary, debt creation, we can use only a small portion of that technological backlog. A new system will have to be put into effect in order that the things which science and technology have developed may come into full social usage. Such usage is not possible where you are looking for the easiest possible means of creating debt faster against others than they can create it against you, and it is just this procedure which is necessitated by the Price System under which we operate our society. If you cannot maintain a preferential position in creating debt claims then you do not stay in business; you go out of it. This is not the fault of the individual debt merchant or businessman; he is no more rapacious than any other individual or group in this country, but under the setup he is compelled to play the game that way. Granted a different setup, the rules of the game would be different. Technocracy is pointing out that social change will necessitate a new set of rules.

Social change, in the sense of change in the rate of energy conversion, was not inaugurated until the advent of the scientist, the engineer, and the technologist. The meal which we have had here tonight and the microphone before which I am now speaking are symbolic of two entirely different processes—the meal of a process which has not appreciably changed in seven thousand years, and the microphone of one introduced by modern technology. Food is still served with man as a transport animal with antiquated combustion methods still used to cook it; yet here before us is a delicate instrument through which the technologist puts me into direct communication with the people of this Continent. There is no reason why the meal tonight could not have been served without human aid—no technical reason that is; financially, yes: It would not be sufficiently profitable to serve it so, and the capital investment would be too high.

Given a continuance of the present rates of growth of energy consumption, we can see no hope of social advance under the Price System and its democratic political sponsorship. These things contain nothing suitable for dealing with the problems in hand. They have no methodology except that of debt creation, and this is not sufficient for a high-energy civilization. Therefore, Technocracy insists that unless a procedure is developed whereby we can accurately measure and know the rate of growth of all energy-consuming devices on this Continent as a function of time, and unless all production and distribution sequences are operated on what is known as the balanced-load (which means a minimum of deviation), then we shall rapidly approach the end of social stability and the beginning of chaos on this Continent.

I wish to note here a very interesting thing which has come out of the work and activities of Technocracy—one of the strangest social and political realignments in history. For the first time we are witnessing an alignment on the basis of functional capacity, so that now we discover the liberal (that last resort of the incompetent and stupid), the debt merchant, and the communist, fighting together in defense of a system of advantage. We can but wish them well, hoping that the company of each is pleasing to the others, and we reiterate that, unless the physical factors of society on this Continent are brought under control, and that very soon, these strangely assorted companions-at-arms will have little or no solace save the mud of the last ditch wherein they now struggle so valiantly.

Technocracy has little more to say except that it proposes to carry on, hoping that in the near future it may be able to bring out its first definite reports on how this Continent has functioned in the past century. It may be that social conditions are moving faster than we think, that they are even more serious than we have claimed. We do not know. Suffice it to say that if swiftly moving conditions do prevent our work from becoming known, they cannot prevent the work from continuing. That we have enemies and encounter hostility is clear enough, but we prefer to be known by the enemies we have made, for in their character and motives they exhibit an unparalleled functional incapacity.

Thus it comes about that Technocracy is not greatly concerned with replying to its critics. It does not have to. Conditions are determining the rate at which we are moving: Technocracy can afford to work and wait; no other organization on this Continent can. If we are correct, then we have carved out for ourselves one of the biggest tasks in history (and we will die in harness). If we are wrong, then we have been merely human. We can leave it at that, in the full knowledge that conditions in the next few years will decide who is correct.

Technocracy has no theory of the assumption of power; it is not concerned with going any particular place. It merely observes the present direction of social forces, striving to obtain a clear and unified picture of what is happening on this Continent. What is to come is for the future to tell. We wish everybody a happy landing, and close with the affirmation that Technocracy will stand its ground. For the rest, we will leave it to tomorrow.

TECHNOCRACY

Technocracy Inc. is a non-profit membership organization incorporated under the laws of the State of New York. It is a Continental Organization with offices and members in the principal countries of the North American Continent. It is not a financial racket or a political party.

Technocracy Inc. operates only on the North American Continent through the structure of its own Continental Headquarters, Area Controls, Regional Divisions, Sections, and Organizers as a self-disciplined, self-controlled organization. It has no affiliations with any other organization, movement, or association, whether in North America or elsewhere.

Technocracy points out that this Continent has the natural resources, the physical equipment, and the trained personnel to produce and distribute an abundance.

Technocracy finds that the production and distribution of an abundance of physical wealth on a Continental scale for the use of all Continental citizens can only be accomplished by a Continental technological control—a government of function.

Technocracy declares that this Continent has a rendezvous with Destiny; that this Continent must decide between Abundance and Chaos within the next few years. Technocracy realizes that this decision must be made by a mass movement of North Americans trained and self-disciplined, capable of operating a technological mechanism of production and distribution on the Continent when the present Price System becomes impotent to operate. Technocracy Inc. is notifying every intelligent and courageous North American that his future tomorrow rests on what he does today. Technocracy offers the specifications and the blueprints of Continental physical operations for the production of abundance for every citizen.

MODERN DEFENSE

(Front and Rear Covers) Not until the North American area as defined by Technocracy is operated as a functional unit can this Continent or any part of it be defended. America has the finest trained technical personnel and can make the most and best defense equipment —but not under the Price System. Technocracy repeats its categoric demand: Technology for Defense!—(Underwood and Underwood Photo)

MODERN EQUIPMENT

(Facing Page) This is a gigantic installation of grid controlled mercury arc rectifiers which supply direct current for manufacturing aluminum. Capacity, 55,000 kilowatts! Here is an amplification of what, only a short time ago, was a mere laboratory baby—electronics, essential to your radio. Technocracy salutes the installation of more and better technology!—(*Power Plant Engineering* Photo.)

TECHNOCRACY

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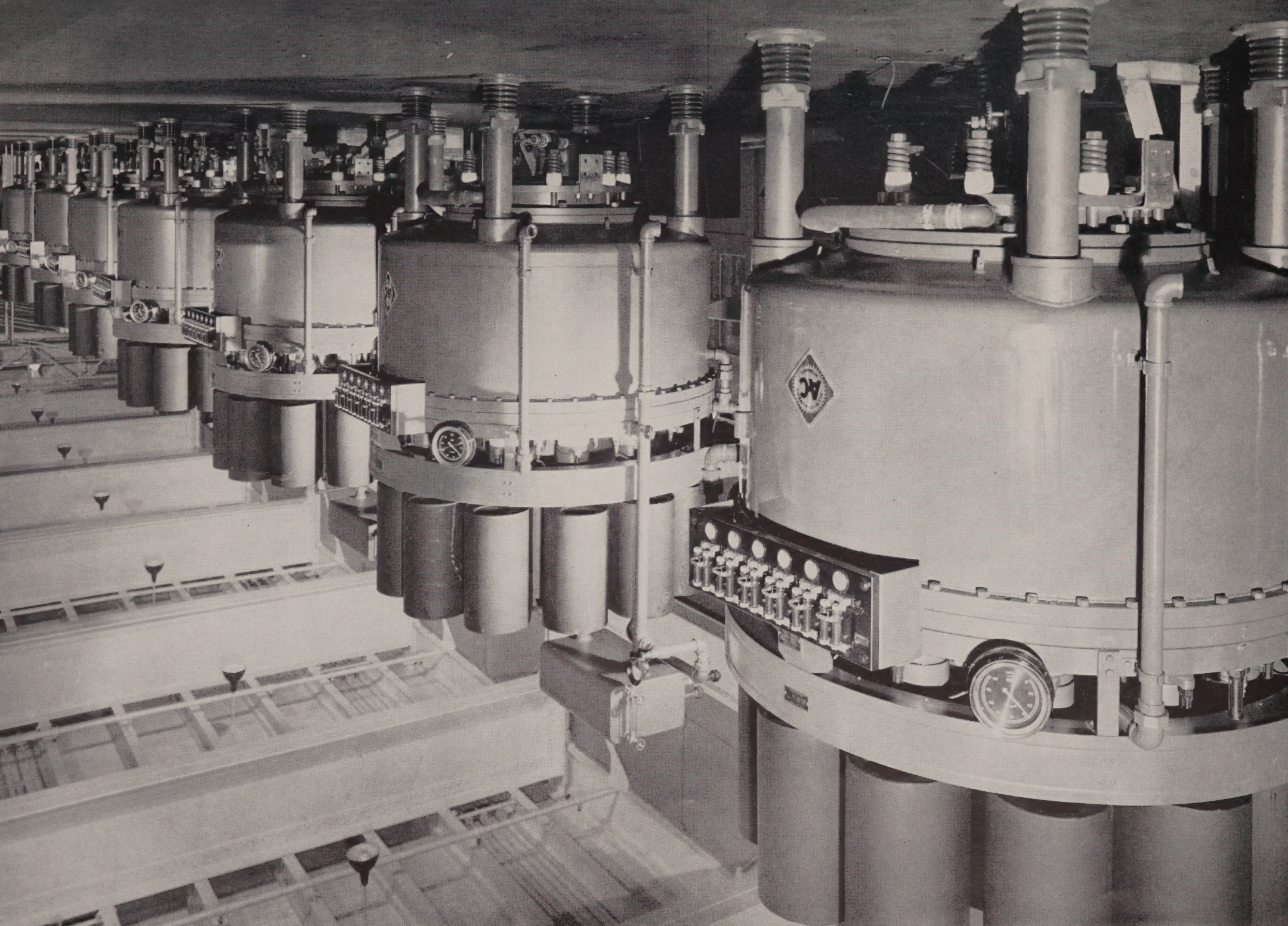

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